MICROSTRATEGY 2022 EDUCATION COURSE CATALOG

EMPOWER YOUR ORGANIZATION TO BUILD AND MANAGE WORLD-CLASS INTELLIGENCE APPLICATIONS
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AN INTRODUCTION TO MICROSTRATEGY EDUCATION

MicroStrategy Education is committed to the success of every MicroStrategy practitioner, from novice analysts to the most experienced Intelligence Center architects. To that end, we’ve designed a program of continuous training and certification for every role in your Intelligent Enterprise.

MicroStrategy Certified Professionals:

- **Are always up to date:** They take advantage of all of the latest capabilities in the product
- **Build better applications, fast:** They create impactful, cost-efficient applications
- **Engineer secure, resilient environments:** They minimize the risk of failure, data inaccuracies, or lapses in information security.

Access to MicroStrategy Education is available via two annual user subscriptions—the Architect Pass and the Analyst Pass. Additional custom or private education is available via Education Services.

**ARCHITECT PASS**

*For administrators and architects.*

This annual subscription gives you access to our entire Education Catalog of 50+ courses for 12 learning paths and certifications. Users also have access to Expert.Now—an on-demand, interactive service that connects you via video chat with MicroStrategy experts for assistance and advice on a wide range of topics.

Available for $3,500 per user*, discounted to $2,000 when purchased in a bundle of 10+.

**ANALYST PASS**

*For analysts, developers, and data scientists.*

This annual subscription delivers cost-effective access to 11 courses and 3 analyst certifications. This pass is recommended alongside every Power User and Web User bundle.

Available for $350 per user*, discounted to $200 when purchased in a bundle of 100+.

**CUSTOM EDUCATION PORTAL**

*Education for everyone.*

The Custom Learning Portal is a customized learning page, hosted on MicroStrategy.com, that centralizes your learning content, from custom courses to project overviews and how-to videos, all alongside Education courses and certifications.

$50,000 per year [includes deployment, hosting, maintenance, and 80 hours of custom course creation]

*According to USD prices; regional pricing available upon request.*
CERTIFICATION PATHS FOR EVERY ROLE

MicroStrategy certifications are recognized throughout the industry for their rigorous learning paths and hands-on final projects. A MicroStrategy certification validates and promotes your expertise inside and outside your company.

After completing your certification, you’ll receive a digital badge that highlights your accomplishment, which you can post on social media. You’ll also be included in MicroStrategy’s Registry of Certified Professionals.

The Analyst Pass supports three foundational certifications. Every MicroStrategy practitioner should earn their Analyst Certification (ANL) as a baseline, and then explore the Data Scientist (SCI) and Developer (DVL) paths to deepen their knowledge.

With the Architect Pass, you can pursue more advanced certifications for specialized Intelligence Center roles. Every architect level user should earn a MicroStrategy Certified Architect (MCA) to validate their expertise across all aspects of the MicroStrategy platform. From there, architects and administrators can earn more specialized certifications to master specific Intelligence Center roles.

TRAIN ON YOUR TERMS

This catalog features over 50 multi-level courses and certifications covering a full spectrum of topics related to analytics and mobility. Our courseware is available in multiple languages and in a variety of formats. You can select the training method that works best with your schedule and preferences:

**Instructor-led Classroom:** MicroStrategy-certified instructors deliver our courses live in cities around the world. You’ll benefit from hands-on experiences, exceptional materials, and interactions with up to 20 peers.

**Instructor-led Online:** MicroStrategy-certified instructors deliver our courses live and online in various time zones around the world. You’ll work in our high-performance cloud environment while avoiding the hassle of traveling.

**Interactive eLearning:** Most of our courses are available as interactive eLearning modules. These modules follow the same content as instructor-led courses, but also contain instructional videos, multimedia content, simulations, and quizzes.

**Video Recordings:** We have thousands of hours of on-demand recorded course sessions, available to take whenever and wherever. These videos are easily accessible through the MicroStrategy Education Center, so you can train at your own pace and convenience.
PRIVATE CLASSES AND INDIVIDUAL EDUCATION

In addition to subscription-based access via Education Passes, our education courses and certifications are available through private instructor-led classes or individual purchase:

Private and Customized Classes

Our experts are available to deliver private training sessions (up to 20 students), which can be further tailored to the specific needs of your organization. Education Services includes the labor costs of preparing, customizing, and delivering your content, as outlined in the table below.

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<thead>
<tr>
<th>TYPE</th>
<th>DESCRIPTION</th>
<th>ESTIMATED LABOR</th>
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<tbody>
<tr>
<td>Private Instructor-led</td>
<td>Existing 2022 course or certification delivered privately on-premise or online.</td>
<td>8 hours per 1 day of instruction</td>
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<td>Private and Custom Instructor-led</td>
<td>Existing 2022 course customized with your data, reports, dossiers, and cards.</td>
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<td>Private and Commissioned Instructor-led</td>
<td>New education experience with instruction and workshops tailored to your specific needs.</td>
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CONTACT US

Our teams are happy to work with you to provide the right course offerings. To get started, speak with your Account Executive, visit us at microstrategy.com/education, or contact the Education Department directly at education@microstrategy.com.
<table>
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<th>Course Title</th>
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**ANALYST PASS**

**ARCHITECT PASS**

- Analytics Course
- Administrative Course
- Mobile Course
- Certification Prep Course
- Certification Project
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<th><strong>ANALYST LEVEL CERTIFICATIONS</strong></th>
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<tr>
<td><strong>Analyst (ANL)</strong></td>
<td>Create, share, and maintain intelligence applications for the department using enterprise security, data, and application objects to help ensure a single version of the truth.</td>
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<td><strong>Data Scientist (SCI)</strong></td>
<td>Build and publish advanced statistics, predictive models, and machine learning algorithms using libraries such as TensorFlow, R, Python, and MATLAB, which are leveraged often by analysts and developers.</td>
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<tr>
<td><strong>Developer (DVL)</strong></td>
<td>Embed intelligence into custom and third-party applications using common programming languages such as JavaScript, Java, PHP, Python, SWIFT, Objective-C, C#, .Net, and more.</td>
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<td><strong>MicroStrategy Architect (MCA)</strong></td>
<td>Create, share, and maintain intelligence applications for the enterprise. Build and maintain the schema objects and abstraction layer on top of various changing enterprise assets. Configure the Intelligence Architecture on-premises and/or in the cloud.</td>
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<tr>
<td><strong>Analytics Architect (ANA)</strong></td>
<td>Create, publish, and optimize a federated data layer as the enterprise’s single version of the truth. Build and maintain the schema objects and abstraction layer on top of various changing enterprise assets.</td>
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<td><strong>Application Architect (APA)</strong></td>
<td>Create, share, and maintain intelligence applications for the enterprise. Publish standardized application objects and promote departmental applications from self-service into the enterprise environment.</td>
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<td><strong>Mobile Architect (MBA)</strong></td>
<td>Build, compile, deploy, and maintain mobile environments and applications. Optimize user experience when accessing applications via mobile devices. Integrate with preferred VPN, SSO, and EMM protocols.</td>
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<td><strong>Services Architect (SVA)</strong></td>
<td>Embed analytics into portals, third-party, mobile, and white-labeled applications. Publish web services and data services for developers to use when building departmental applications.</td>
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<td><strong>Database Architect (DBA)</strong></td>
<td>Design and maintain database enterprise assets. Optimize database performance and usage based on query type, usage patterns, and application design requirements.</td>
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<td><strong>Platform Administrator (PLA)</strong></td>
<td>Install and configure the Intelligence Architecture on-premises and/or in the cloud. Maintain the security layer, monitor system usage, and optimize architecture to reduce errors, maximize uptime, and boost performance.</td>
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<td><strong>System Administrator (SYA)</strong></td>
<td>Set up, maintain, monitor, and continuously support the infrastructure environment through deployment on AWS, Azure, Windows, or Linux, all while optimizing performance and controlling costs.</td>
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<td><strong>Intelligence Center Director (ICD)</strong></td>
<td>Create intelligence environments by deploying the Intelligence Architecture, supervising the Intelligence Center, and running Intelligence Programs to support enterprise and departmental analytics and mobility applications for all constituents.</td>
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COURSES FOR ANALYSTS

ANALYSTS
DATA SCIENTISTS
DEVELOPERS

Students with an Analyst Pass or Architect Pass can access all of the courses in this section.
2022.005 Pass Orientation (2 hours)

Course description
This course delves into MicroStrategy Education and is intended to orient you to all the features and benefits of the services and facilitate professional development planning.

Skills you gain
- How to navigate the Education Center
- How to make the best use out of your Pass
- Which classes to focus on, depending on your goals or interests

MicroStrategy products covered
- MicroStrategy Analyst Pass
- MicroStrategy Architect Pass

Right for you if
- You want to understand how to make the most of your Education Pass

Topics
1. Introduction to MicroStrategy Education
2. Walkthrough of the Education Center
3. Walkthrough of the Course Catalog
4. Course Catalog individual questions
2022.008 Analyze and Collaborate on Dossiers using Library (1 hour)

Course description
Analyze appealing, insightful dashboard-style dossiers in MicroStrategy Library. Understand filters, drilling, and bookmarks to customize your dossier’s display. Collaborate with colleagues through comments and bookmarks. Personalize your Library to find the data you need.

MicroStrategy products covered
- MicroStrategy Library, MicroStrategy Web

Right for you if
- You want to use Library to analyze dossiers and collaborate with your colleagues

Modules
1. Creative and collaborative data: Dossiers and MicroStrategy Library 5:00
2. Navigating and analyzing your dossiers in Library 15:00
3. Customizing a dossier's data display using filters, drilling, and bookmarks 10:00
4. Collaborating and communicating: Comments, discussions, and sharing 10:00
5. Personalizing and managing your Library 10:00
6. Using MicroStrategy Web to analyze dossiers 5:00
**2022.009 Sharing Dossiers Everywhere: Library on Your Devices (30 minutes)**

**Course description**

Use the MicroStrategy app and Library Mobile, to access your Library content anytime, anywhere. Set up and personalize your Library across devices. Add another layer of analysis by enabling HyperIntelligence cards on the MicroStrategy app.

**MicroStrategy products covered**

- MicroStrategy Library, MicroStrategy Library Mobile,
  MicroStrategy App, HyperIntelligence

**Right for you if**

- You want to use Library whenever, wherever to analyze dossiers and collaborate with your colleagues

**Modules**

1. Analysis on-the-go: Library Mobile 5:00
2. Library on your desktop: The MicroStrategy App 15:00
3. Add another layer of information with HyperIntelligence cards 10:00
2022.010 Instant Insights: HyperIntelligence for Business Users (30 minutes)

Course description

Develop the HyperIntelligence skills to use MicroStrategy's modern business intelligence discovery tool for zero-click analysis. Instantly analyze trends and key performance indicators. Learn how to use and share cards across your organization and other platforms, such as Outlook.

MicroStrategy products covered

- HyperIntelligence, HyperMobile, HyperIntelligence for Outlook

Right for you if

- You want to use HyperIntelligence to surface insights on the web, on your mobile device, and in Outlook

Modules

1. Empower your insights with MicroStrategy HyperIntelligence 5:00
2. Enabling HyperIntelligence on mobile devices 15:00
3. Extending HyperIntelligence with Outlook 16:00
**2022.111 Overview of Enterprise Analytics (2 days)**

**Course description**

Build an analytics application through hands-on exercises. Start with analyzing data in dossiers and creating your own compelling analytical story. Learn the components of an analytics architecture, development, deployment, and simple administrative features. Covers the fundamentals of enterprise analytics and builds the knowledge base necessary for the more advanced courses offered for analysts, developers, and administrators.

**Skills you gain**

- Learn business intelligence product offerings
- Create simple reporting objects
- Plan data warehouse and reporting object mapping
- Create basic reports, documents, and dossiers
- Understand the project life cycle
- Deploy a simple app to a mobile device

**MicroStrategy products covered**

- MicroStrategy Developer, MicroStrategy Web, MicroStrategy Mobile, MicroStrategy Workstation, and various project design and administration tools

**Right for you if**

- You are an analyst, SDK developer, or administrator who has an interest in learning about MicroStrategy business intelligence products

**Topics**

1. **MicroStrategy Intelligence Platform**
   - Compelling stories with your data
   - Share and collaborate
   - Support your organization’s analytical needs

2. **Data: The foundation of business intelligence**
   - Federated analytics with MicroStrategy
   - Core of the semantic graph: Metadata
   - MicroStrategy architecture

3. **Build and store your objects: Projects**
   - Enterprise, departmental, and agile approaches
   - Project life cycle
   - Create a project

4. **Modern analytics and data discovery**
   - Limit data on the report: Filters
   - Calculate data on the report: Metrics
   - Customize data display: Custom groups
   - Empower a dossier

5. **MicroStrategy Mobile**
   - Mobile Library on the go
   - Database write-back: Transaction Services

6. **Enterprise Security**
   - Secure architecture
   - Corporate directory credentials
   - Secure cloud

7. **MicroStrategy Administration**
   - Support a security policy
   - Analyze telemetry data to increase utilization and optimize performance

8. **SDK overview**
   - Deploy a custom visualization to your MicroStrategy environment
2022.001 Zero-Click Analysis: MicroStrategy HyperIntelligence (1 day)

Course description
Develop the HyperIntelligence skills to leverage MicroStrategy’s modern business intelligence discovery tool for zero-click analysis. Learn best practices for optimizing HyperIntelligence card datasets and design by creating your own cards. Instantly analyze trends and key performance indicators. Learn how to deploy, secure, and share cards across your organization and other platforms, such as Twitter.

Skills you gain
- Understand the tools used to create, use, and deploy HyperIntelligence cards
- Optimize datasets for cards
- Leverage cards in a web browser, mobile device, and Outlook
- Collaborate by certifying, publishing, and sharing cards

MicroStrategy products covered
- MicroStrategy HyperIntelligence
- MicroStrategy Workstation

Right for you if
- You want to deploy zero-click analysis across your organization
- You want to design best-in-class cards that deliver effective BI to users

Topics
1. Empower your organization with zero-click analysis
   - Explore HyperIntelligence in action
   - Download the web extension
   - Identify impactful use cases

2. Optimize data for HyperIntelligence Cards
   - Ensure informed decision-making with reliable data
   - Enhance card functionality with multiform attributes

3. Build best-in-class HyperIntelligence cards
   - Leverage card design to effectively display data
   - Showcase your data with templates
   - Add links to direct users to relevant content
   - Add data to the body of the card
   - Replace a dataset, keeping card design
   - Create new metrics while building cards
   - Surface cards from large datasets with pattern matching

4. Drive collaboration: Certify, publish, and share cards
   - Certify cards to ensure data integrity
   - Provide access to cards
   - Share images of cards

5. Extend Hyper: Mobile and Outlook
   - Download and configure HyperMobile and the HyperIntelligence for Office add-in
   - Access cards on-the-go with HyperMobile
   - View cards related to your emails in Outlook
**2022.110 Visualizations: Foundations and Best Practices (1 day)**

**Course description**
Learn to effectively use visualizations to obtain quick insights from your data. Understand different visualization types and their use cases. Learn optimization techniques to guide analysis. Create and format visualizations in a dossier, an interactive business dashboard, in MicroStrategy Web. Arrange a dossier page for efficient analysis.

**Skills you gain**
- Understanding when to use various visualization types based on your analysis goals
- Improving visualizations with design elements
- Creating and formatting visualizations in MicroStrategy Web
- Effectively displaying visualizations together on a dossier page

**MicroStrategy products covered**
- MicroStrategy Web

**Right for you if**
- You want to learn visualization best practices and gain hands-on experience with creating visualizations in dossiers

**Topics**
1. Creating appealing data displays
   - Analyzing change over time
   - Comparing categories of data
   - Understanding part-to-whole relationships
   - Visualizing the distribution of data
   - Analyzing relationships between data
   - Identifying trends in geographic region
   - Displaying detailed data in a comprehensive format
2. Optimizing visualizations to guide analysis
   - Displaying an appropriate amount of information
   - Emphasizing the message with design elements
3. Maximizing business analysis with dossiers
   - Adding reliable data to a dossier
   - Creating visualizations
4. Interacting with data and formatting visualizations
   - Improving visualization design to emphasize insights
5. Optimizing the analytical experience with dossier page design
   - Formatting a dossier page for efficient analysis
2022.112 Introduction to Analytics Reporting (2 days)

Course description
Understand basic reporting concepts, such as the use of metrics, attributes, and filters. Create reports and reporting objects to apply these concepts. Transform reports into appealing, insightful dossiers and elevate them with HyperIntelligence.

Skills you gain
- Analyze organizational data to make effective business decisions
- Identify appropriate business concepts to evaluate calculations
- Use calculations and measures to determine actionable business decisions
- Logically plan subsets of data for analysis, using filtering techniques
- Design business reports and dossiers for other users, with self-service features
- Share reports using export, print, or subscriptions to report deliveries
- Share dossiers in Library to collaborate with other users
- Identify and analyze trends, anomalies, and other important meaning in your data

MicroStrategy products covered
- MicroStrategy Web
- MicroStrategy Library
- MicroStrategy HyperIntelligence

Right for you if
- You are a beginning analyst who needs an introduction to basic report and object creation, and wants an overview of dossiers, visualizations, and HyperIntelligence

Topics
1. Reporting basics
   - Using reports to understand details
   - Calculating business data: Metrics
   - Providing business context: Attributes
2. Creating and sharing reports
   - Building reports based on pre-designed reports
   - Building reports using templates
   - Building reports from scratch
   - Sharing reports with other users
3. Calculating data on reports
   - Building metrics to calculate data
   - Building metrics within reports: Derived metrics
4. Filtering reports
   - Building filters to determine the data included on reports
   - Building prompts to allow user input
5. Visualizing data in dossiers
   - Guiding an analytical experience with visualizations and interactivity
   - Interactive graphic representations of data: Visualizations
   - Filtering data on a dossier
   - Transforming reports into dossiers
   - Sharing dossiers and collaborating with other users: Library
   - Elevating dossier data analysis with HyperIntelligence
2022.142 Dashboarding with Dossiers and Visualizations  (2 days)

Course description

Create appealing, insightful dashboard-style dossiers in MicroStrategy Library and Web. Import and refine data to create visually-compelling, interactive data representations (visualizations). Format, analyze, filter, and layer the visualizations. Design effective dossiers for mobile devices, and share your dossiers to collaborate.

Skills you gain

• Graphing techniques to analyze trends, anomalies, and important meaning in data
• Select the appropriate interactive graph to display data for specific business analyses
• Convert raw data to a clean display to view quality, consistent information
• Organize data in layers to connect similar information
• Guide logical analysis using filtering
• Enable efficient analysis across devices by customizing a mobile view
• Share dossiers to collaborate with colleagues

MicroStrategy products covered

• MicroStrategy Web, MicroStrategy Library

Right for you if

• You want to learn the basics of MicroStrategy dashboarding with dossiers

Topics

1. Creative and collaborative data: Dossiers
   • Design first-class dossiers
   • Add data to your dossier
   • Display data as a visualization
   • Filter data on a dossier
2. Importing data
   • Import data from different sources
   • Improve quality of data's structure
   • Improve quality of data values
3. Visualizing your data
   • Create visualizations
   • Heat maps, geographic maps, network visualizations, ring charts
   • Free-form layout: Flexible dossier editing
4. Filtering and layering data
   • Layers of data filtered differently: Chapters
   • Layers of data filtered the same: Pages
   • Use one visualization to filter the data in another visualization
   • Object filters
   • Link pages with visualizations: Page-to-page filters
5. Optimizing dossier display for smaller devices
   • Enable vertical scrolling
   • Autosize text
   • Group visualizations
   • Hide visualizations to control mobile and web views
6. Sharing dossiers everywhere
   • Share with colleagues in Web and Library
   • Certify a dossier
2022.143 Dossier Design Workshop (4 hours)

Workshop description
In this workshop, you learn to build more effective dossiers and communicate insights leveraging user experience principles. Use MicroStrategy’s rich design tools to create dossiers that help users easily understand complex datasets to make informed decisions.

Skills you gain
- Design techniques to build successful and visually appealing dossiers
- Improve dossier readability through user experience design principles, such as effective white space and color choice
- Leverage dossier functionality to tell a coherent story

MicroStrategy products covered
- MicroStrategy Web
- MicroStrategy Library

Right for you if
- You want to elevate your dossiers and create data stories that are a success throughout your organization

Topics
1. Using UX principles to design a better dossier
   - Designing focused, thoughtful, and user-friendly dossiers
   - Dossier user experience design principles
   - Determine jobs to be done to ensure user adoption
   - Prioritize simplicity to present highlights and main points
   - Use easy-to-understand patterns and placement to guide analysis
   - Provide a summary page to provide context for in-depth analysis
   - Build the right data visualizations to answer business questions
   - Choose the right colors to improve dossier readability and analysis
   - Create balanced white space to focus users on important data points
   - Create groups of like objects to build a coherent story
   - Use design best practices to create a dossier
2. Dossier design workshop: Hands-on practice
2022.710 Integrating Data Science Tools with MicroStrategy (1 day)

Course description

Familiarize yourself with data science tools, such as Jupyter Notebook and mstrio-py. Explore MicroStrategy visualizations and how they can help you understand data distributions and trends. Integrate R, Python, and MicroStrategy for a complete data science toolkit. Learn Python basics, and improve your data in MicroStrategy and with Python code.

Skills you gain

- Install Jupyter Notebook in a Python virtual environment
- Connect to your MicroStrategy environment using mstrio-py
- Analyze data with histograms, box plots, and line charts
- Trend analysis
- Working with Python code in Jupyter Notebook
- Improving data quality and structure
- Retrieve and add data to MicroStrategy using mstrio-py in Jupyter Notebook

MicroStrategy products covered

- MicroStrategy Web
- Mstrio-py package

Right for you if

- You are familiarizing yourself with basic data science techniques and tools, and want to leverage MicroStrategy’s federated data and analysis capabilities in your data science workflow.

Best class experience if you have

- Introduction to Analytics Reporting

Topics

1. Integrating data science tools
   - Install Jupyter Notebook and data science libraries
   - Python and R
   - Explore a dataset in Jupyter
   - MicroStrategy federated data
   - Use mstrio-py in Jupyter Notebook

2. Blending skills to enhance insights
   - Data science overview
   - Seeking insight with data science questions
   - CRISP-DM process

3. Exploring data with visualizations
   - Histograms
   - Box plots
   - Line charts

4. Using code to conduct data science
   - Basic Python operations
   - Python collections
   - Dataframes

5. Improving data for analysis
   - Data quality and structure
   - Improving data code-free in MicroStrategy
   - Improving data with Python code
   - Use mstrio-py to retrieve and add data to MicroStrategy
2022.711 Data Mining and Predictive Analytics (2 days)

Course description
Develop predictive models and reports by leveraging native algorithms or by importing models from third-party data mining vendors like R and PMML, in hands-on exercises using MicroStrategy Developer. Learn data mining best practices.

Skills you gain
- Predictive modeling
- Predictive Model Markup Language (PMML) integration
- Regression analysis
- Classification analysis
- Market basket analysis
- Cluster analysis

MicroStrategy products covered
- MicroStrategy Data Mining functionality in MicroStrategy Developer

Right for you if
- You are a data scientist or advanced analyst who needs to incorporate predictive and classification analysis into your metrics

Best class experience if you have
- Introduction to Data Science
- Advanced Analytics Reporting

Topics
1. Data mining and predictive analytics overview
   - Intelligence Center and data mining
   - Data mining types and examples
2. Data mining workflow
   - Creating data mining datasets
   - Selecting variables
   - Developing and deploying the model
3. Integrating data mining across tools
   - Creating predictive models with PMML
   - Using MicroStrategy with RStudio and Jupyter Notebook: mstrio
   - Using R with MicroStrategy: Native R
4. Forecasting
   - Regression analysis
   - Linear and exponential regression
   - Tree regression analysis
   - Time series analysis
5. Classification
   - Decision tree analysis
   - Logistic regression analysis
6. Association
   - Association rules
7. Clustering
   - Cluster analysis
2022.712 Zero-Click Data Science Insights with HyperIntelligence (1 hour)

Course description

MicroStrategy HyperIntelligence enables you to deliver critical information, such as predictive analytics that you generate using a machine learning model. Integrate machine learning insights into organizational workflows, with HyperIntelligence cards. Leverage card templates and formatting to design a card effective for analysis. Enable and certify cards making them available to other users.

MicroStrategy products covered

• HyperIntelligence, Workstation

Right for you if

• You want to use HyperIntelligence to deliver machine learning insights

Topics

1. Let answers find you with HyperIntelligence
2. Using machines to solve problems
3. Leveraging card design to effectively display data
4. Making cards available to other users
5. Enhancing cards to increase data-driven actions
2022.214 Introduction to Coding with MicroStrategy SDK (1 day)

Course description
Learn about HTML and CSS to prepare you to dive into other MicroStrategy SDK classes. Discover or just refresh your knowledge on the technologies behind MicroStrategy SDKs. Review key programming concepts and how the Web works.

Skills you gain
- Programming overview
- Programming concepts
- Object-oriented principles
- MicroStrategy Web architecture
- Write HTML
- Write CSS rules

MicroStrategy products covered
- MicroStrategy Web

Right for you if
- You are a junior or aspiring software developer who wants to learn the underlying technologies of MicroStrategy SDKs

Best class experience if you have
- Overview of Enterprise Analytics

Topics
1. Developing with MicroStrategy SDK
   - Explore MicroStrategy SDKs & APIs
   - Expectations for beginning developers
   - Object-oriented programming
   - Inside a developer’s toolbox
   - Coding 101
2. How MicroStrategy Web works
   - The four pillars of a web page
   - Process a request in MicroStrategy Web
   - MicroStrategy Web architecture
   - Customizing MicroStrategy: WCE
3. Programming concepts
   - Manipulate data with expressions
   - Perform a single action: Simple statement
   - Make a choice: Decision statements
   - Perform actions multiple times: Repetition statements
   - Combine statements: Procedures and functions
   - Algorithms: Steps to solve a problem
4. HTML
   - Define web page structure: Tags
   - Build web pages in an HTML editor
   - Reference web pages in an iFrame
5. CSS
   - Apply multiple styles to a set of content
   - Storage locations of styles
   - Style order of evaluation
   - Target HTML content with selectors
   - Customize text
   - Modify list and table properties
2022.213 SDK for Customizing Analytical Applications (2 days)

Course description
Take advantage of MicroStrategy Web APIs and SDKs to change Web behavior and look-and-feel. Embed dossiers in web pages and customize MicroStrategy Library.

Skills you gain
- Plan customizations for MicroStrategy Web
- Eclipse IDE
- Web Customization Editor
- Create custom pages and links
- Create custom plug-ins and Web beans
- CSS
- Embedding SDK
- Web SDK
- Library SDK
- Hyper SDK for Web

MicroStrategy products covered
- MicroStrategy SDK
- MicroStrategy Web
- MicroStrategy Workstation
- MicroStrategy Library

Right for you if
- You are a software developer or technically inclined business analyst who wants to customize the MicroStrategy Web interface and add extra functionality.

Best class experience if you have
- Overview of Enterprise Analytics
- Introductory Java development
- Some exposure to Eclipse

Topics
1. Pre-course setup
2. SDK: Extend, integrate, and embed
   - MicroStrategy SDK
   - Web SDK customization possibilities
   - Tools needed to for Web SDK
3. My first plug-in
   - Develop plug-ins to customize software
   - Develop plug-ins in Eclipse
   - Web Customization Editor
   - Plug-ins best practices
4. Customizing menus
   - Context menus
   - Identify event requirements
   - Customize navigation with ribbons, menus, and toolbars
5. Customizing pages
   - MicroStrategy Web architecture
   - Add a new page to Web
   - Page template and its sections
   - Define the page configuration file
   - Page shortcuts
6. Blocks of data: Web beans
   - Beans folder and bean properties
   - Apply styles with beans
7. Formatting display: Cascading Style Sheets
   - Apply styles with CSS
   - Customize CSS files
8. Embed HyperIntelligence in an HTML page using Hyper SDK
   - Embed Hyper functionality in a webpage
   - Toggle Zero-Click Analytics on any Web Page
9. Branding MicroStrategy Library and Hyper SDK
   - Review the base plug-in
   - Find customization targets
   - Display custom fonts in Library
   - Create a custom HyperIntelligence extension
Course description

Leverage MicroStrategy REST APIs to create your own applications. Embed dossiers in web pages with the Embedding API library, manipulate data objects from a custom application, push your data into a data cube using custom code, and leverage the REST API with Python by using mstrio.

Skills you gain

- MicroStrategy REST API Explorer
- JavaScript
- JSON format
- cURL
- WinSCP and VNC
- Python

MicroStrategy products covered

- MicroStrategy REST API Explorer
- MicroStrategy Web
- MicroStrategy Library
- Push API
- Embedding API

Right for you if

- You are a software developer who wants to learn to use REST API end points in custom applications.

Best class experience if you have

- Overview of Enterprise Analytics class
- SDK for Customizing Analytical Applications class
- JavaScript experience
- Python experience

Topics

1. Fundamentals in REST API
   - Developing in an Intelligent Enterprise
   - API 101
   - JSON as a communication format
   - Web services and REST
   - MicroStrategy RESTful APIs

2. Tools of the Trade
   - MicroStrategy REST API Explorer
   - Testing end points with cURL

3. Certifying a Dossier
   - Certify a dossier through the API

4. Embedding a Dossier in an HTML Page
   - Embedding SDK
   - How to embed a dossier

5. Creating Data using the Push API
   - Publishing datasets with the Push API
   - Create a cube using the REST API
   - Code walk-through

6. Leveraging the REST API with Python: mstrio
   - Introduction to mstrio
   - Creating and publishing a cube using mstrio
2022.000 What’s New for Analysts (1 day)

Course description
Upgrade your MicroStrategy knowledge, with a focus on new capabilities for the analyst role. Also a great class for administrators to get ahead of new user workflows, and SDK developers to learn new user actions. Bring information to your users by employing enhanced dossier and visualization authoring capabilities and sharing insights with colleagues.

Skills you gain
- Train others in your organization on new features and workflows
- Use new visualization and dashboarding capabilities to intuitively discover and convey data insights
- Use free-form layout and shapes to create rich infographic dossiers
- Leverage collaboration tools such as private discussions and bookmark sharing
- Create and edit dossiers in Web and Library

MicroStrategy products covered
- MicroStrategy Web
- MicroStrategy Library

Right for you if
- You have an interest in learning about new analyst features in MicroStrategy

Best class experience if you have
- Familiarity with MicroStrategy concepts and terminology
- Have passed the ANL certification or taken the Dashboarding with Dossiers and Visualizations class

Topics
1. Data Discovery: Storytelling and Data Visualization
   - Comparing values between categories using bar size: Bar charts
   - Analyzing change over time with line and area charts
   - Analyzing time-based trends: Time series visualizations
   - Visualizing the flow of data: Sankey diagrams
   - Viewing object contributions to a total using ring charts
   - Visualizing cumulative effects with waterfall charts
   - Sorting grids by metric values
   - Displaying detailed data with metric KPIs
   - Framing and grouping objects: Geometric shapes
   - Independently positioning, sizing, and layering objects: Free-form layout
   - Synchronizing filter selections on the Filter panel
   - Displaying geographical data on maps
   - Optimizing display for smaller devices
2. Collaboration: Share your Insights with Library
   - Communicating and collaborating in Library: Discussions and comments
   - Sharing bookmarks with other users
   - Editing dossiers in Library
   - Staying up to date on key metrics: Subscribing to dossiers for content delivery
   - Quickly accessing your favorite dossiers in Library
   - Organizing your dossiers in groups
   - Sharing insights by exporting dossiers
   - Staying connected to your data: Library on mobile devices
   - Library on your desktop: The MicroStrategy App

Delivery method: LIVE INSTRUCTOR LED  eLEARNING  VIDEO RECORDING
COURSES FOR ARCHITECTS

ANALYTICS ARCHITECTS
APPLICATIONS ARCHITECTS
SERVICES ARCHITECTS
DATABASE ARCHITECTS
MOBILE ARCHITECTS
PLATFORM ADMINISTRATORS
SYSTEM ADMINISTRATORS
INTELLIGENCE CENTER DIRECTORS

Students with an Architect Pass can access all of the courses in this section.
2022.414 Designing Metrics for the Intelligent Enterprise (1 day)

Course description
Develop enterprise metrics such as level and transformation metrics for use on analytical reports. Work with filters to create conditional metrics. Implement data governance by creating base metrics. This course is hands on using MicroStrategy Web in a Cloud environment.

Skills you gain
- Create time-based comparisons with transformation metrics
- Create level metrics to compare contributions
- Present inventory data with non-aggregatable metrics
- Create conditional metrics to filter your calculations
- Select the function used for dynamic aggregation, when attributes are removed on the fly from a report

MicroStrategy products covered
- MicroStrategy Web
- MicroStrategy Developer

Right for you if
- You are a metric designer who focuses on designing enterprise metrics for all departments across the enterprise to use in their various reporting needs

Best class experience if you have
- Introduction to Analytics Reporting
- Overview of Enterprise Analytics
- Advanced Analytics Reporting

Topics
1. Introduction to enterprise metrics
   - Calculating business data: Metrics
   - Reusing metric formulas for consistency and data governance: Base metrics
2. Transformation metrics
   - Time-based comparisons
3. Level metrics
   - Changing a metric's calculation level
   - Defining a level
   - Defining whether the level metric aggregates (groups) by the target attribute
   - Defining the level metric's relationship with the report filter
   - Combining aggregation and filtering options to create a level metric
   - Interacting with the context of reports: Report level
   - Creating metrics with the Formula Editor
   - Nested metrics: Multiple formulas with different levels in a single metric
4. Non-aggregatable metrics
   - Inventory metrics
5. Conditional metrics
   - Applying filters to metrics
   - How conditional metrics and report filters interact
   - Ignoring related report filter elements
   - Merging metric and report filters
6. Dynamic aggregation
   - Calculating metrics at different levels on a report
   - Changing the dynamic aggregation function of metrics
2022.412 Advanced Analytics Reporting (2 days)

Course description

Build advanced objects (metrics, filters, derived elements, custom groups) to develop complex analytical reports. Bring your reports to the next level with more detailed information using advanced analytics, to glean valuable insights by manipulating your raw data.

Skills you gain

- Create level metrics to compare contributions
- Create transformation metrics to offset time values
- Filter data with dynamic dates, by combining elements from different attributes, and using pass-through functions
- Create attributes and metrics on the fly in reports
- Create virtual attributes to define how data is grouped and displayed on reports
- Optimize performance with Intelligent Cubes
- Determine the order of calculation
- Determine how data source tables are joined to produce specific results

MicroStrategy products covered

- MicroStrategy Web and Developer

Right for you if

- You are an advanced analyst who needs to support complex reporting needs

Best class experience if you have

- Introduction to Analytics Reporting
- Overview of Enterprise Analytics

Topics

1. Introduction to advanced analytics
2. Creating metrics in reports
   - Ranking metric values
   - Time-based comparisons: Transformation metrics
   - Changing the attribute level for calculations: Level metrics
   - Calculating metrics at different levels on a report: Dynamic aggregation
3. Advanced attributes
   - Applying a different filter to each report row: Custom groups
   - Grouping attribute elements on the fly: Derived elements
4. Advanced filters: Filtering data on reports
   - Comparing two attributes: Attribute-to-attribute filtering
   - Filtering with dynamic dates
   - Combining elements from different attributes: Joint element list
   - Pass-through functions
   - Metric qualifications
   - Relationship filters
5. Improving performance: Intelligent Cubes
6. Advanced reporting options
   - Filtering metric values after they are calculated: Report limits
   - Determining how metric data is combined: Metric join types
   - Determining which attribute elements are displayed: Attribute join types
   - Specifying the order of report calculations: Evaluation order
7. Base formulas and advanced subtotals
   - Reusing metric formulas for consistency and time-saving: Base formulas
   - Customizing subtotals: Advanced subtotals
8. Advanced metrics
   - Counting objects: Count metrics
   - Advanced functions in metrics
2022.416 Preparing your Dossier Data for Storytelling (1 day)

Course description

Import complex data to support visually-compelling, interactive data representations (visualizations). Combine multiple data sources to provide a seamless, cohesive picture of your business in a single dossier. Create attributes and metrics within your dossiers to manipulate the federated data, to get only the data that you want, in the way that you want it.

Skills you gain

- Import and refine data from a variety of data sources: existing project objects, external data, and databases
- Join multiple datasets to display accurate values
- Create new dossier objects based on existing dataset objects
- Group attribute elements to display your data the way that you need it

MicroStrategy products covered

- MicroStrategy Web

Right for you if

- You want to extend dossiers by manipulating your data to present complex, rich stories to other users to make informed business decisions

Best class experience if you have

- Dashboarding with Dossiers and Visualizations
- Designing Metrics for the Intelligent Enterprise

Topics

1. Federated data in modern analytics
2. Adding data to dossiers
   - Adding datasets to dossiers
   - Accessing existing objects: Creating a dataset report within a dossier
   - Adding a prompted report: Allowing users to filter the data available from the dataset
   - Data governance and improving data quality
   - Importing multiple cross-tabbed worksheets
   - Importing data from a database
   - Joining multiple datasets
   - Determining which dataset values are displayed: Primary vs. secondary datasets
   - Connecting to a live dataset versus importing an in-memory dataset
   - Updating data: Republishing and replacing datasets
3. Customizing the display of your business data
   - Grouping attribute elements
   - Combining attribute elements with calculations: Calculated groups
   - Creating attributes based on dataset attributes: Derived attributes
4. Designing on-the-fly business calculations
   - Creating metrics based on dataset metrics: Derived metrics
   - Creating derived metrics from scratch
2022.417 Creating Advanced Dossiers (1 day)

Course description
Create visually-compelling, interactive data representations (visualizations). Build a story about your data to help your users make accurate, timely business decisions. Design dossiers to help you and your users easily understand complex datasets, and to use that knowledge to make informed business decisions. Deliver concrete answers and provide context, so you can minimize misunderstandings and maximize your results.

Skills you gain
- Display your data in visualizations to quickly communicate the insights in your data
- Create complex compound visualizations by overlaying different visualization containers to analyze different views of the data in the same space
- Improve story-telling capabilities by linking to external content and to other dossiers
- Create workflows to guide users through the information presented in your dossier
- Identify relationships and patterns to surface to your users
- Extend visualizations with HyperIntelligence

MicroStrategy products covered
- MicroStrategy Web

Right for you if
- You want to extend dossiers by manipulating your data to present complex, rich stories to other users to make informed business decisions

Best class experience if you have
- Dashboarding with Dossiers and Visualizations
- Preparing your Dossier Data for Storytelling

Topics
1. Creating effective and actionable dossiers
2. Visualizing your business data
   - Independently position, size, and stack visualizations: Free-form layout
   - Highlight values that meet conditions: Thresholds
   - Create column sets to view unrelated attributes and metrics: Compound grids
   - Visualize metric trends quickly: Microcharts
   - Visualize the flow of data: Sankey diagrams
   - Analyze time-based trends: Time series visualizations
3. Guiding users through workflows
   - Create layered views of data: Panel stacks
   - Providing design flexibility and additional context: Information windows
   - Create stories about data using links
   - Link pages with visualizations
   - Contextual linking to another dossier: Pass Filter panel selections
   - Contextual linking to another dossier: Answer prompts
   - Link text and images
4. Displaying data that users need
   - Focus analysis by limiting and customizing data: Filters
   - Filtering with multiple conditions: Designer filters
   - Automatically update filter selections when data changes: Dynamic filters
   - Synchronize filter selections on the Filter panel
   - Increase user interaction in Library: Select objects to display on visualizations
5. Extending data discovery with HyperIntelligence
   - Extend visualizations with HyperIntelligence cards
2022.141 Introduction to Documents (2 days)

Course description
Create Report Services documents to satisfy sophisticated information requirements. Display grids, graphs, text, and images. Transform data into an appealing, insightful presentation for financial reports, budgets, and invoices. Participate in hands-on exercises to create a basic document, then build on the basics to create a grouped document to fine-tune information display, to create a logical workflow to make business decisions.

Skills you gain
• Creating boardroom-quality business documents
• Analyzing organizational data to make effective business decisions
• Identifying appropriate business concepts to evaluate calculations
• Logically planning subsets of data for analysis using grouping and custom sections
• Designing business reports for other users
• Adding data from a MicroStrategy report or an external data source
• Sharing documents using collaborative notes

MicroStrategy products covered
• MicroStrategy Web
• MicroStrategy Report Services

Right for you if
You are a beginning analyst who needs an introduction to document design.

Best class experience if you have
Taken Overview of Enterprise Analytics or Introduction to Analytics Reporting.

Topics
1. Overview of documents
   • Creating a simple document
   • When to use each view: Summary
2. Adding data to documents: Datasets
   • Importing from an external data source
3. Displaying data and text on documents
   • Labeling your data: Static text
   • Displaying dataset objects: Dynamic text
   • Organizing and designing your document: Document sections
   • Displaying: Auto text
   • Adding sections to the document
   • Displaying images
   • Delineating areas: Lines and rectangles
   • Arranging and formatting objects
4. Displaying reports on documents
   • Displaying data as a report
   • Using report title bars
   • Editing the report data
   • Formatting reports
5. Grouping documents: Creating custom sections
   • Organizing and sorting documents by grouping
   • Grouping: Creating custom sections
   • Changing how groups are displayed
   • Disabling group selection
6. Collaborating: Sharing insights
   • Sharing comments using the Notes pane
   • Subscribing for automatic delivery
   • Sharing documents with other users
**2022.413 Advanced Documents: Interactivity and Joining Datasets (2 days)**

**Course description**

Create documents to combine data from multiple sources in a pixel-perfect format. Allow end users to interact with documents using selectors, panels, interactive graphs, and links. This course is hands on using MicroStrategy Web in a Cloud environment.

**Skills you gain**

- Create a document with pixel-perfect formatting
- Add interactivity to documents
- Combine data from multiple sources in a single document, and specify data joins
- Layer data in a single document
- Link documents to other documents, reports, and web pages
- Design documents for multiple users

**MicroStrategy products covered**

- MicroStrategy Report Services in MicroStrategy Web

**Right for you if**

- You are an advanced analyst who needs to create documents to combine data from multiple sources, provide interactivity, and control formatting down to the pixel

**Best class experience if you have**

- Introduction to Analytics Reporting
- Overview of Enterprise Analytics
- Introduction to Documents

**Topics**

1. Assessing user needs for interactive documents
   - The next level of reporting: Documents
   - Documents in the Intelligent Enterprise
2. Interactive documents
   - Dashboard design techniques and tips
   - Panels and panel stacks: Layering data
   - Graphs: Visualizing your data
   - Selectors: Providing interactivity to users
   - Using a report to control another report
   - Switching panels with a selector
   - When to use a document vs. a dossier
3. Adding data to documents: Datasets
   - Mapping imported data to project attributes
   - Using multiple datasets
   - Reports that use multiple datasets
   - View filters: Restricting data on reports
   - Calculated expressions: Combining metrics from multiple datasets
4. Advanced document options
   - Using templates
   - Adding MicroStrategy reports
   - Creating derived metrics
   - Creating derived attributes
   - Creating layers of documents: Multi-layer documents
   - Opening documents, reports, and web pages from a document: Linking
   - Highlighting data that meets thresholds: Conditional formatting
   - Tooltips: Providing additional information

**Delivery method:** Live Instructor Led ❌ eLearning ❌ Video Recording
**2022.421 Advanced Mobile Applications (1 day)**

**Course description**
Create interactive documents, linking them to create a mobile app with a custom, code-free home page. Use Mobile widgets and interactive document components. Learn about advanced mobile application features such as docked panel selectors, navigation templates, and cutting-edge Mobile widgets. Create a dossier with interactive visualizations, and view it in Library Mobile. Learn applicable tasks for Mobile administrators to help you design a powerful and effective mobile app.

**Skills you gain**
- Configure a Mobile app with code-free customizations
- Add complex interactive analysis to an app
- Deploy robust app navigation functionality
- Make personal design decisions for app creation
- Apply design principles for a polished app
- Review app performance analysis tools

**MicroStrategy products covered**
- MicroStrategy Web
- MicroStrategy Mobile
- MicroStrategy Library Mobile
- MicroStrategy Report Services

**Right for you if**
- You are a document or dashboard designer or mobile app designer who wants to utilize advanced Mobile features

**Best class experience if you have**
- Dashboarding and Visualizations
- Overview of Enterprise Mobility
- Introduction to Documents
- Advanced Documents

**Topics**

1. Create a robust app
   - Enhance your Mobile app with images
   - Design for multiple mobile devices: Multiple views
   - Provide additional information to users: Information windows

2. Enhance your app with Mobile Widgets
   - Add interactivity with Mobile widgets
   - Advanced app navigation

3. Enhance user experience with a dossier, Survey-based Transactions, and Library
   - Dossiers
   - Survey visualization
   - Library Mobile
   - Transaction Services

4. Code-free customizations
   - Customize your app without using code
   - Let users customize displayed data with prompts
   - Configure the home screen for a mobile app

5. Understand the impact of Mobile administration
   - User notifications, subscriptions, and alerts
   - Enterprise Mobility Management
   - Improve the user experience by understanding Mobile statistics
   - Prepare content for offline mode
   - Deploy a MicroStrategy Mobile app
Course description

Create mobile applications with write-back enabled functionality (transactions) for extended business value. Learn how to save and store business decisions and initiate transactions in your mobile apps. Build workflows with stored procedures, input dependent text, and transactional SQL.

Skills you gain

- Create freeform SQL queries
- Create transaction reports
- Configure and use pgAdmin
- Create data tables in a data warehouse that can have data written back to them
- Build documents
- Configure database write-back transactions
- Create transaction-enabled mobile apps
- Configure transactions for off-line functionality

MicroStrategy products covered

- MicroStrategy Transaction Services
- MicroStrategy Mobile
- MicroStrategy Web
- MicroStrategy Developer

Right for you if

- You are an advanced mobile app designer creating apps that utilize write-back transactions

Best class experience if you have

- Overview of Enterprise Mobility
- Project Architecting
- Must bring a supported mobile device

Topics

1. Introduction to MicroStrategy Transaction Services
   - Building blocks of Transaction Services: Freeform SQL and Freeform XQuery
   - Transaction Services terminology
   - Use scenarios
   - Survey-based Transactions in a Dossier

2. Create query reports using Freeform SQL
   - Benefits and limitations of Freeform SQL reports
   - Creating a Freeform SQL report
   - Prompts with Freeform SQL reports

3. Transaction Reports
   - Create a Transaction Services report

4. Transaction Services documents
   - Create a Transaction Services-enabled document
   - Add conditional logic to a document
   - Add transactions to a grid report

5. Interact with Transaction Services on mobile devices
   - Transaction tables
   - Mobile transaction controls
   - Photo Uploader widget
   - Image Viewer widget
   - Survey widget
   - Offline Mode

6. Workshop
   - Create the Safety Inspection App

7. Overview of transaction reports with XQuery
   - Overview of Web services
   - About XQuery
   - Define a Freeform XQuery report
   - Create transactional documents
2022.002 What’s New for Architects (2 days)

Course description
Upgrade your knowledge with this master class that focuses on new capabilities for the architect role. Learn about enhanced dashboarding capabilities in Workstation. Discover expanded feature sets to create facts, advanced filters, metrics, interactive dossiers. Explore Workstation, HyperIntelligence, editing dossiers in Library, and administration capabilities.

Skills you gain
- Demonstrate mastery of the MicroStrategy platform
- Train others in your organization on new features and workflows
- Create schema and reporting objects in Workstation
- Use new dashboarding capabilities to visualize your data, tell stories about the data with workflows, and filter data
- Expand data utilization with MicroStrategy HyperIntelligence by deploying cards that link to and filter dossiers
- Update your security standards

MicroStrategy products covered
- MicroStrategy Workstation
- MicroStrategy Library

Right for you if
- You want to learn about new features in MicroStrategy

Best class experience if you have
- Passed the MCA certification or taken the MCA path classes

Topics
1. Creating objects in Workstation
   - Workstation and schema management
   - The building blocks of business data: Facts
   - Calculate business data: Metrics
   - Provide context for facts: Attributes
2. Data discovery: Storytelling and data analysis with dossiers
   - Visualize metric trends quickly: Microcharts
   - View unrelated attributes and metrics: Compound grids
   - Create storytelling workflows with links
   - Synchronize Filter panel selections
   - Automatically update filter selections when data changes: Dynamic filters
   - Format individual characters: Rich text boxes
   - Create layered views of data on a page: Panel stacks
   - Provide design flexibility and additional context: Information windows
3. Extend data discovery: HyperIntelligence
   - Create and deploy HyperIntelligence cards
   - Leverage HyperIntelligence in dossiers
   - Contextually link from a card to a dossier
   - Reach social media audiences by tweeting images of cards: HyperTweet
   - Customize the HyperIntelligence web extension for your users
   - Embed HyperIntelligence functionality in a web page: Hyper SDK
4. Creating applications
   - Visual displays of key business information
   - Provide a customized application experience: Set a dossier as the Library home page
5. Enterprise administration
   - Monitor and manage cubes
   - Gateway to the semantic graph: Modeling service

Delivery method: Live Instructor Led, eLearning, Video Recording
2022.313 Introduction to Big Data (1 day)

Course description

This course is focused on the core concepts and technologies that make up the big data landscape. Learn the terminology, use cases, and applications of big data analytics. Gain hands-on experience with the most popular frameworks for big data processing such as Hadoop and Spark.

Develop your understanding of distributed cluster computing and discover how to efficiently prepare and analyze massive amounts of data using the MicroStrategy platform.

Skills you gain

- Big data fundamentals and applications
- Distributed storage and computing models
- Hadoop Distributed File System (HDFS)
- YARN, MapReduce, and SQL on Hadoop
- Hive and SparkSQL
- MicroStrategy Jupyter Notebook and PySpark

MicroStrategy products covered

- MicroStrategy Web
- MicroStrategy for Jupyter
- MicroStrategy Big Data Connectors for Spark and Hadoop

Right for you if

- You are a business intelligence professional interested in learning about big data and leveraging MicroStrategy for a comprehensive big data solution

Best class experience if you have

- Overview of Enterprise Analytics

Topics

1. Overview of big data
   - Big data overview
   - Working with Hadoop core components such as HDFS and YARN
   - Integrating MicroStrategy Web with Hive
2. Working with Hadoop and MicroStrategy
   - Log analysis using Hadoop
   - MicroStrategy-Hadoop connectivity options
   - SQL on Hadoop
   - Using MicroStrategy Jupyter Notebook
3. Working with the Spark Processing Engine and MicroStrategy
   - Spark overview
   - Spark architecture
   - Using Python with Spark
   - Connecting MicroStrategy to Spark
2022.411 Project Architecting (3 days)

Course description
Create and maintain the foundation of an enterprise analytics application by developing a physical schema and logical model from single, multiple, or heterogeneous data sources. Develop core objects of the reporting infrastructure such as attributes, facts, hierarchies, and mappings to data warehouse tables. Leverage advanced options to build the infrastructure for efficiency and performance.

Skills you gain
- Logical data modeling
- Data warehouse schema development
- Project life cycle management
- Schema management
- Aggregate table development
- Multisource report development
- Partitioning
- Business intelligence project design

MicroStrategy products covered
- MicroStrategy Workstation
- MicroStrategy Developer

Right for you if
- You are a project designer or advanced analyst who wants to learn the process of creating a project foundation

Best class experience if you have
- Overview of Enterprise Analytics
- Data Modeling

Topics
1. Designing the MicroStrategy schema
   - MicroStrategy project life cycle
   - Gather business requirements
   - Create a logical data model
   - Create a database instance
2. Developing and maintaining schema objects
   - Create a new project using Workstation
   - Create facts
   - Create metrics
   - Create and modify attributes
   - View and create hierarchies
3. Optimizing the MicroStrategy schema
   - Monitor project performance
   - Aggregate tables
   - Improve query performance with partitioning
4. Retrieving data from multiple sources
   - Primary and secondary database instances
   - Support for duplicate tables
   - SQL generation for multisource reports
   - Supported use cases
5. Advanced design features
   - Work with Transformations
   - Fact level extension
   - Data importing
   - Logical view creation
   - Attribute role configuration
   - Create a project source
2022.312 Administration for MicroStrategy on Cloud (1 day)

Course description
Learn how to implement your business intelligence solutions more quickly by launching powerful analytics, mobility, and HyperIntelligence applications in minutes using the MicroStrategy Cloud Platform. Gain hands-on experience migrating your data warehouse and MicroStrategy BI applications from on-premises environments to modern cloud platforms such as Microsoft Azure and Amazon Web Services.

Skills you gain
• Cloud computing architecture and services
• MicroStrategy on Azure configuration, deployment, and management
• MicroStrategy on AWS configuration, deployment, and management
• Provisioning, terminating, scheduling, scaling, and managing environments with MicroStrategy Cloud portal
• Post deployment workflow (data migration, backup, recovery, and system monitoring)

MicroStrategy products covered
• MicroStrategy Cloud Platform (MCP)
• MicroStrategy Cloud Environment (MCE)
• MicroStrategy Developer
• MicroStrategy Web
• MicroStrategy Object Manager

Right for you if
• You are an administrator who wants to administer your MicroStrategy system in a cloud environment

Best class experience if you have
• Overview of Enterprise Analytics

Topics
1. Cloud computing fundamentals
   • Introduction to cloud computing
   • Self-service deployment option using MicroStrategy Cloud Platform (MCP)
   • Fully managed deployment option using MicroStrategy Cloud Environment (MCE)
2. Deploying MicroStrategy Cloud Platform on Amazon Web Services (AWS)
   • AWS architecture overview
   • Deploying MicroStrategy on AWS
   • Security in MicroStrategy Cloud on AWS
3. Deploying MicroStrategy Cloud Platform on Microsoft Azure
   • Azure architecture overview
   • Deploying MicroStrategy on Azure
   • Security in MicroStrategy Cloud on Azure
4. Managing deployed environments
   • Administering environments
   • Backup and recovery
   • Upgrading instances
   • Monitoring system activity
5. Migrating to the cloud
   • Migrating your on-premises BI applications to the cloud
   • Migrating your data warehouse to the cloud
   • Validating and testing your migration
   • Hybrid and multi-cloud scenarios
2022.311 Administration for Enterprise Analytics (3 days)

Course description

Manage and secure a MicroStrategy Enterprise Analytics system. Configure a secure system, optimize and automate common administrator tasks, and monitor and improve the MicroStrategy environment using telemetry and other tools. Leverage HyperIntelligence to view your system architecture. Includes hands-on exercises in an enterprise analytics Cloud environment.

Skills you gain

- System tuning based on business requirements
- Project lifecycle management and cross-environment object migration planning
- Automated script development
- Security planning based on corporate security requirements
- Implementing user credential and authentication rules
- Versioning and object change auditing

MicroStrategy products covered

- MicroStrategy Developer
- MicroStrategy Workstation
- MicroStrategy administration tools

Right for you if

- You are an administrator who wants to fully administrate a complete MicroStrategy environment

Best class experience if you have

- Overview of Enterprise Analytics

Topics

1. Introduction to administering MicroStrategy
   - Understand the Intelligent Enterprise
2. Managing environments, applications, and objects
   - Create and manage environments
   - View your system architecture using HyperIntelligence Cards
3. Securing user privileges and data access
   - Groups, users, and security roles
   - Manage access to data and objects
4. User authentication
   - Security basics and authentication
   - Account security policies
5. Connectivity
   - Analytics architecture
6. Monitoring and governing the system
   - Analyze real-time data statistics
   - Optimize system utilization
   - Manage system resources
   - Monitor and govern projects
7. Optimizing system performance
   - Caches and Intelligent Cubes
   - VDLB properties, schedules, and subscriptions
8. Managing the project life cycle
   - Migrate objects across environments
   - Using Update packages
9. Tracking changes with change journaling
10. Automating administrative tasks
    - Automate tasks with scripts
    - System Manager workflows

Delivery method: LIVE INSTRUCTOR LED, eLEARNING, VIDEO RECORDING
2022.314 Working with MicroStrategy in Linux (1 day)

Course description
This class touches on the basics of Linux, then covers deployment of the MicroStrategy Analytics platform in a Linux environment to learn the directory structure, location of MicroStrategy utilities, and how to take advantage of them. Learn the various tools and features available for managing, performance tuning, and troubleshooting your Linux environment.

Skills you gain
- Understand the deployment process, best practices, and directory structure in a Linux environment
- Use the best tools to establish platform connectivity and manage your Linux environment
- Share resources in a clustered Linux environment
- Use call stacks, log files, and tracing for troubleshooting

MicroStrategy products covered
- MicroStrategy Intelligence Server
- MicroStrategy Web
- MicroStrategy Mobile

Right for you if
- You are a MicroStrategy administrator who wants to manage the MicroStrategy Analytics platform in a Linux environment

Best class experience if you have
- Administration for Enterprise Analytics

Topics
1. MicroStrategy Analytics Platform for Linux
   - Overview of MicroStrategy Analytics platform
   - Linux basics and tools
2. Installation in a Linux environment
   - Installation process
   - Directory structure
   - Multiple installations
   - Deploying .war files and Web servers
   - Installation best practices
   - Configuring analytics environment
   - MicroStrategy tools for Linux
3. Administering MicroStrategy
   - Managing Intelligence Server
   - Monitoring project activity
   - Governing
   - Job prioritization
   - Clustering in Linux environment
   - Administering MicroStrategy Web Universal
   - Administering MicroStrategy Mobile
4. Performance tuning and troubleshooting
   - Tuning Linux
   - Tuning MicroStrategy Web and application servers
   - Tuning Intelligence Server
   - Troubleshooting
2022.612 Advanced Big Data Administration (1 day)

Course description
Learn how to solve common big data challenges in your organization by leveraging MicroStrategy’s open architecture to operate on large datasets and query SQL on Hadoop technologies. Gain hands-on experience transforming data with Spark using SQL and Python. Develop your understanding of real-time processing and specific big data security challenges. Learn how to fine-tune performance.

Skills you gain
- Integrating MicroStrategy with NoSQL data sources to analyze semi-structured data
- Data transformation using Spark data frame APIs
- Security in a big data environment
- Implementing real-time big data processing

MicroStrategy products covered
- MicroStrategy Web
- MicroStrategy Dossier
- MicroStrategy for Jupyter
- MicroStrategy Big Data Connectors for Spark and Hadoop

Right for you if
- You are an administrator, project designer, data engineer, or security specialist who wants to access big data sources, optimize their performance, and ensure adherence to security requirements

Best class experience if you have
- Introduction to Big Data.

Topics
1. Overview of big data
   - Attributes of big data
   - Hadoop overview
2. Working with NoSQL sources
   - NoSQL and NoSQL sources
   - MicroStrategy-NoSQL database connectivity options
3. Real-time analytics
   - Streaming
   - Real-time processing architecture
   - Framework and industry adoption
   - Using MicroStrategy with Storm and Spark Streaming
4. Security in a big data environment
   - Security in Hadoop
   - Other security options
   - MicroStrategy’s security model
5. Performance optimization for big data access
   - Emerging technologies for addressing big data challenges
   - Big data analytics workflow
   - Best practices for performance optimizations
2022.066 Platform Administrator—Configuring, Managing, and Optimizing (2 days)

Course description

In this course, you will revisit the foundation platform administration topics from a holistic approach of the Platform Administrator in an Intelligent Enterprise. The course focuses on the key competencies to help you succeed as a Platform Administrator, by supporting your Intelligent Enterprise in providing a well-tuned and stable analytics platform environment.

Skills you gain

- Create corporate guidelines for platform administration
- Guide the deployment, configuration, monitoring, tuning, and troubleshooting of a MicroStrategy analytics environment using best practices
- Manage project lifecycle and cross-environment object migration planning

MicroStrategy products covered

- MicroStrategy Intelligence Server
- MicroStrategy Command Manager
- MicroStrategy Object Manager
- MicroStrategy Web
- MicroStrategy Platform Administrator
- MicroStrategy Integrity Manager
- MicroStrategy License Manager

Right for you if

- You want to become the Platform Administrator at your organization to optimize, secure, and manage the MicroStrategy enterprise platform

Best class experience if you

- Have taken the foundation courses

Topics

1. The Intelligent Enterprise
2. Standardizing the Intelligent Platform
   - Intelligent Enterprise standards
   - Standardizing requirements gathering
3. Platform Administration Planning
   - Platform architecture
   - MicroStrategy deployment options
   - MicroStrategy Workstation
   - Importing data from Impala
4. Platform Configuration
   - Configuring connectivity, platform security, and Distribution Services
5. Object Migrations
   - Managing project lifecycle
   - Implementing object migrations
   - Best practices for object migrations
6. Platform Monitoring
   - Platform Analytics
   - Using Integrity Manager
   - Using License Manager
7. Troubleshooting
   - MicroStrategy Diagnostics and Performance Logging tool
   - Analyzing log files
   - Diagnostics and statistics
   - Using the DB Query tool
8. Platform Optimizations
   - Product placement considerations
   - Optimizing systems for performance
2022.912 Advanced Project Architecting (2 days)

Course description
Learn about advanced issues in data warehousing design and how to work with these complexities when architecting a MicroStrategy project. Understand how to model complex hierarchies and attribute relationships, implement role attributes and slowly changing dimensions, design the schema for optimal performance, use logical views to solve data modeling and schema design issues, and optimize query performance using both the database and MicroStrategy functionality.

Skills you gain
- Create data models
- Model complex hierarchies
- Implement role attributes and slow-changing dimensions
- Design schemas for optimal performance
- Create logical views
- Optimize query performance using database and application functionality

MicroStrategy products covered
- MicroStrategy Developer
- MicroStrategy Architect

Right for you if
- You are an administrator, project architect, or a database administrator who has an interest in learning how to resolve complex data warehouse modeling and design issues to best support a MicroStrategy reporting environment

Best class experience if you have
- Project Architecting

Topics
1. Introduction to advanced data warehousing
   • Data warehouse design and reporting
   • Overview of advanced data warehousing
2. Advanced schema design
   • Snowflake and star schemas
   • Recommended schema design
   • Logical key setting
3. Logical views
   • Logical views in MicroStrategy Architect
   • Logical views vs. database views
   • Creating logical views
   • Logical views and star schemas
   • Mapping attributes to logical views
4. Many-to-many relationships
   • Creating a separate relationship table
   • Creating a compound child attribute
   • Creating a hidden common compound child attribute
   • Creating a common child attribute
5. Attribute roles
   • Creating explicit table aliases
   • Enabling automatic attribute role recognition
   • Creating table views
   • Creating logical views
6. Hierarchies
   • Ragged hierarchies
   • Split hierarchies
   • Recursive hierarchies
7. Slowly Changing Dimensions (SCDs)
   • Creating a life stamp
   • Using a hidden attribute
2022.611 Analytics Performance Tuning (2 days)

Course description
Learn how to tune the MicroStrategy Enterprise Analytics environment for high performance. Understand caching, Intelligent Cubes, and system configuration to optimize data transfer, data rendering, data warehouse access, and mobile performance.

Skills you gain
- Improve system performance with techniques like caching and SQL optimization
- Create high-performance documents and dossiers for end users
- Implement mobile performance improvement strategies
- Configure high-performance networks using techniques such as HTTP compression

MicroStrategy products covered
- MicroStrategy administrative tools
- MicroStrategy Developer
- MicroStrategy Web
- MicroStrategy Mobile

Right for you if
- You are an administrator who wants to optimize the performance of your MicroStrategy environment

Best class experience if you have
- Administration for Enterprise Analytics

Topics
1. Optimizing MicroStrategy Analytics Platform
   - System optimizing: Intelligent Enterprise
   - MicroStrategy Analytics Platform performance
2. Caching
   - Optimizing system performance
   - Report, document, and dossier caching
   - Object and element caching
3. Intelligent Cubes
   - In-Memory Analytics and partitioned cubes
   - Factors affecting Intelligent Cube size
   - Incremental cube refresh
   - Report execution against cubes
4. System architecture and configuration
   - Server specifications
   - Intelligence Server configuration
   - Web server configuration
5. Data transfer
   - Network recommendations for high performance
   - Distribution Services performance
6. Data rendering
   - Report execution workflow
   - High-performance documents
7. Data warehouse access
   - Database query performance
   - Report and schema design optimizations
   - SQL generation optimizations
   - Data architecture optimizations
   - Other query performance optimizations
8. Mobile performance
   - Document execution workflow in Mobile
   - Mobile performance improvement strategies

Delivery method: LIVE INSTRUCTOR LED eLEARNING VIDEO RECORDING
2022.062 Analytics Architect—Planning, Standardizing, and Implementing the Intelligent Enterprise (2 days)

Course description

In this course, you revisit foundation project architecture and design topics from the Analytics Architect role in an Intelligent Enterprise. The course focuses on key competencies to help you succeed as an Analytics Architect and support your Intelligent Enterprise to produce a best-in-class analytics solution based on enterprise-level best practices.

Skills you gain

- Standardize the dimensional modeling process
- Create guidelines for schema object development
- Establish dataset creation standards
- Establish enterprise standards and project documentation
- Implement a project update tracking system
- Guide requirements gathering and data exploration
- Institute dataset performance optimization practices
- Develop dataset monitoring and troubleshooting protocols

MicroStrategy products covered

- MicroStrategy Developer
- MicroStrategy Workstation
- MicroStrategy Platform Analytics
- MicroStrategy Integrity Manager

Right for you if

- You want to become the Analytics Architect at your organization to standardize the MicroStrategy project architecture development process at an enterprise level

Best class experience if you

- Have taken the Analytics Architect learning path foundation courses
- Have completed the ANL and MCA certifications, or have equivalent advanced knowledge

Topics

1. The Analytics Architect role
2. Guide the enterprise dimensional modeling process
   - Utilize a Fact Qualifier Matrix
   - Define logical and physical data models
3. Direct schema object development
   - Provide guidelines for fact and attribute creation, user hierarchy protocols
   - Solve complex reporting scenarios
4. Standardize dataset authoring
   - Standardize supporting objects, datasets
   - Establish update request system
5. Share knowledge with the enterprise
   - Documentation repository and training
6. Standardize requirements gathering
   - Direct data source research
   - Establish conventions and other policies
7. Define performance optimization protocols
   - Dataset optimization techniques, data transfer, memory consumption
8. Establish monitoring and troubleshooting guidelines

Delivery method: LIVE INSTRUCTOR LED eLEARNING VIDEO RECORDING
2022.911 MicroStrategy Engines & SQL (2 days)

Course description
Understand how the MicroStrategy Engine develops Structured Query Language (SQL) to gather data in a variety of reporting scenarios. Learn methods for tuning and optimizing report performance using Very Large Database (VLDB) properties.

Skills you gain
- SQL analysis
- SQL optimization techniques
- Create complex queries with SQL, using subqueries and intermediate tables
- Understand SQL behavior based on different objects on a report
- Manage the report execution process in a BI environment

MicroStrategy products covered
- MicroStrategy Developer

Right for you if
- You are an advanced project designer or administrator who wants to optimize complex report and document designs for best performance

Best class experience if you have
- Advanced Analytics Reporting
- Project Architecting

Topics
1. Introduction to MicroStrategy engine
   • SQL generation process
2. Basic optimizations
   • Multi-SELECT statements
   • Composing optimized SQL
   • Attribute definitions and their impact on joins
   • Intermediate tables
3. Templates
   • Attributes
   • Hierarchies
   • Consolidations
   • Custom groups
4. Metrics
   • Non-aggregatable metrics
   • Conditional metrics
   • Transformation metrics
5. Filters
   • Attribute qualifications
   • Set qualifications
   • Metric qualifications
6. Analytical Engine
   • Role of the Analytical Engine
   • Processing a report limit
   • Subtotals
   • Compound metrics
   • Analytical functions
7. Introduction to VLDB properties
   • VLDB properties defined
   • VLDB Properties Editor
   • Managing joins through VLDB properties
   • Modifying VLDB properties from MicroStrategy Workstation

Delivery method: LIVE INSTRUCTOR LED eLEARNING VIDEO RECORDING
2022.061 Application Architect—Planning and Implementing the Intelligent Enterprise (2 days)

Course description

This course teaches key competencies you need to succeed as an Application Architect. It covers the myriad of ways you can help advance your Intelligent Enterprise by delivering best-in-class applications. Along with the Application Architect learning path courses, this course will prepare you to take the Application Architect Certification.

Skills you gain

• Create corporate application design requirements and guidelines
• Guide application development with storyboards and prototypes
• Best practices for creating application objects and applications
• Certify and publish enterprise applications
• Support end users to resolve application issues and change requests
• Review application objects to optimize application performance
• Identify performance bottlenecks
• Optimize application reliability and usability

MicroStrategy products covered

• MicroStrategy Web, Workstation, Platform Analytics, and Developer

Right for you if

• You want to become the Application Architect at your organization to standardize and optimize MicroStrategy applications at the enterprise level

Best class experience if you

• Have taken the Application Architect learning path foundation courses

Topics

1. The Application Architect role
   • Develop an application with an agile approach
2. Standards for application design
   • Implement branding requirements
   • Create naming conventions
   • Create policies for object management
   • Establish graphic design guidelines
   • Specify criteria for datasets
3. Assess application requirements and plan the design
   • Gather and prioritize requirements
   • Scope the project
   • Plan with storyboards and prototypes
4. Create and document the application
   • Standardize application object creation
   • Create the application
5. Publish applications and certify data
   • Certify applications for enterprise standards
   • Document applications
   • Publish applications to the enterprise environment
   • Set a dossier as the Library home page
   • Train and certify analysts
6. Operate and support applications and users
   • Communicate with stakeholders
   • Resolve report application changes
   • Handle change requests
7. Optimize performance and stability
   • Monitor statistics
   • Review application objects
   • Identify performance bottlenecks
   • Improve performance with a caching strategy
   • Optimize application reliability and usability
Course description

Develop a deep understanding of MicroStrategy Mobile APIs & SDKs. Customize a MicroStrategy Mobile and a Library Mobile iOS app for organizational identity, image, and messaging. Learn techniques for customizing app response and behavior.

Skills you gain

• Understand Apple’s Xcode IDE
• Identify the components and design of MicroStrategy’s Mobile architecture
• Generate branding assets
• Rebrand the MicroStrategy Mobile app by implementing new icons, splash screens, intro animations, and custom fonts
• Rebrand Library Mobile
• Create mobile configurations for different devices
• Embed mobile configurations in the app
• Create a custom AppDelegate

MicroStrategy products covered

• MicroStrategy Mobile
• MicroStrategy Library Mobile
• MicroStrategy SDK
• MicroStrategy Web

Right for you if

• You want to customize the iOS Mobile app, add functionality on both the client and server side, and use the Mobile platform to its full potential

Best class experience if you have

• Taken Overview of Enterprise Mobility
• Familiarity with iOS environment, Objective-C, Swift, Java, HTML, CSS, and JSON files

Topics

1. Pre-Course Setup
2. Introduction to SDK for iOS applications
   • MicroStrategy SDK and API family
   • Mobile SDK and Library SDK
   • Levels of customization
3. Intro to Xcode and the Mobile architecture
   • My first Xcode application
   • MicroStrategy Mobile architecture
4. Rebrand mobile apps for your enterprise
   • Change the app icons and splash screen
   • Add an intro animation to the app
   • Rebrand Library Mobile
5. Pre-configure enterprise apps with custom configurations
   • Configure the local Mobile and Library Servers
   • Create a custom configuration
   • Preconfigure the mobile and library apps
6. Customize MicroStrategy Mobile
   • Explore a custom Help site
   • Add custom fonts
   • Set up Command Center
7. Create a custom appDelegate
   • MicroStrategy Mobile’s appDelegate
   • Create a custom appDelegate
   • Add functionality to the appDelegate

Delivery method: LIVE INSTRUCTOR LED eLEARNING VIDEO RECORDING
2022.521 SDK for Customizing Android Applications (1 day)

Course description

Develop a deep understanding of MicroStrategy Mobile SDK for Android devices. Learn to create custom, re-branded mobile applications and mobilize existing business applications.

Skills you gain

- Understand the Android Studio development environment
- Plan customizations for MicroStrategy Mobile SDK
- Identify the components of the Mobile architecture and its design
- Rebrand a mobile app
- Install a custom font
- Create mobile configurations for different devices
- Deploy mobile configurations as a URL or embedded in the app
- Create a custom mobile login task

MicroStrategy products covered

- MicroStrategy Mobile
- MicroStrategy Library Mobile
- MicroStrategy Web
- MicroStrategy Mobile SDK
- MicroStrategy Library SDK
- MicroStrategy Web Customization Editor

Right for you if

- You are interested in customizing the MicroStrategy Mobile app and adding functionality on both the client and server side

Best class experience if you have

- Taken SDK for Customizing Analytical Applications and Overview of Enterprise Mobility courses
- Familiarity with Android OS, Android Studio IDE, and Gradle-based build system

Topics

1. Pre-course Setup
2. MicroStrategy SDK for Android Applications
   - MicroStrategy SDK and API family
   - Mobile SDK and Library Mobile SDK
   - Levels of customization
3. Android Studio and the Mobile Architecture
   - Android Studio overview
   - My first Android application
   - MicroStrategy Mobile architecture
   - Productivity apps for your enterprise
4. Rebrand and Customize Mobile Applications
   - Change the app ID and name
   - Generate and customize app icons
   - Customize the splash screen
   - Workshop: Re-brand Library Mobile
5. App security and Mobile configurations
   - Types of authentications
   - Configure the Mobile Server
   - Methods to configure the mobile device
   - Embed the configuration in the app
   - Adding credentials to the configuration
6. Custom Authentication for Mobile Apps
   - Use the WCE to create a custom mobile login task
   - Rebrand the look and feel of the Project login screen
7. Customize and Deploy your Enterprise Mobile app
   - Install the font plug-in
   - Use a custom font in a document
   - Deploy the app

Delivery method: LIVE INSTRUCTOR LED eLEARNING VIDEO RECORDING
2022.511 Advanced SDK for Customizing Visualizations (2 days)

Course description

Learn how to customize D3 visualizations so that they are compatible with MicroStrategy and use them into a dossier. You learn how to create a new visualization from scratch or use a visualization from the Internet. Incorporate advanced features like metric thresholds, customized drop zones, and custom properties. Explore complex real-world visualizations to appropriately and easily implement these features, and deploy them to other environments. Provides advanced customization techniques, including coding.

Skills you gain

- Analyze and write code in JavaScript
- Modify XML files, HTML, and CSS
- Use the Visualization SDK API
- Introduction to D3 and SVG
- Create a D3 visualization and plugins
- Convert a D3 visualization to consume MicroStrategy data
- Define custom properties in a visualization

MicroStrategy products covered

- MicroStrategy SDK
- MicroStrategy Web
- MicroStrategy Visualization Builder

Right for you if

- You are an advanced SDK developer who wants to customize existing visualizations or create new ones

Best class experience if you have

- Overview of Enterprise Analytics
- SDK for Customizing Analytical Applications
- JavaScript experience

Topics

1. Introduction to visualizations
   - MicroStrategy SDK, Visualization SDK
   - Data visualization
   - D3.js for visualizations
2. Mapping D3 visualizations
   - Map data to MicroStrategy constructs in code
   - Sources of D3.js visualizations
   - Visualization Builder
3. Customize D3 visualizations
   - Use a basic template
   - Change the number of metrics and attributes
   - Change an icon
   - Define drop zones
   - Define custom properties
4. Advanced visualization features
   - Use a visualization as a selector
   - Use metric thresholds
5. Create an advanced D3 visualization from scratch
6. Explore complex visualizations
   - Testing the visualization
   - Custom Bar chart visualization
   - Custom Line chart visualization
7. Deploy custom visualizations
2022.512 Advanced SDK for Customizing Branding (2 days)

Course description

Learn how to create your own URL for custom navigation using the URL API. Create a page, a series of pages, your own prompt type, and a custom object, among other customization skills you gain in this class. Design custom logic such as workflows. Learn how to customize services to achieve organizational efficiency and communication goals. Use beans, tasks, and events to modify the core behavior of MicroStrategy Web.

Skills you gain

- Eclipse IDE and the Web Customization Editor
- Write Java classes
- XML configuration files
- URL API and CSS
- Transforms, styles, new events, and add-ons
- Service-Oriented Architecture (SOA)
- Use tasks in plug-ins and create plug-ins

MicroStrategy products covered

- MicroStrategy SDK
- MicroStrategy Web

Right for you if

- You are an advanced software developer who wants to fine-tune page and functionality customization

Best class experience if you have

- Overview of Enterprise Analytics
- SDK for Customizing Analytical Applications
- Java experience

Topics

1. Setup
   - Accessing the environment
   - Preparing the environment
2. Introduction to MicroStrategy Web SDK
   - MicroStrategy SDK
   - MicroStrategy Web architecture
   - Developing in an intelligent enterprise
3. Report execution and URLs
   - MicroStrategy Web page
   - Navigation (URL API)
4. Rendering and presentation of data
   - Beans
   - Transforms
   - Styles
5. Customizing specific features
   - Events
   - Add-ons
6. Task infrastructure and Service-Oriented Architecture (SOA)
   - Creating a task
   - Using a task
   - Unified REST API architecture
### 2022.513 Advanced SDK for Integration and Single Sign-on (2 days)

**Course description**
Explore single sign-on (SSO) and its challenges in the enterprise. Allow users to submit credentials to authenticate and access MicroStrategy Web without entering additional credentials. Learn different approaches to implementing these methods in your organization. Covers External Security Modules, external debugging tools, and third-party portals to integrate MicroStrategy Web using the SSO methodologies learned.

**Skills you gain**
- Authentication and single sign-on workflow
- Web session management
- MicroStrategy Identity External Security interface
- External Security Module (ESM)
- Intermediate Java skills
- Token validation and trusted authentication
- Implement user mapping with a database
- SQL Server database
- SQL Management Studio
- HTML, JavaScript, and external libraries
- Debugging methods with browser add-ons
- Implement a basic Liferay application portal

**MicroStrategy products covered**
- MicroStrategy SDK
- MicroStrategy Web

**Right for you if**
- You are an advanced SDK developer who wants to integrate MicroStrategy with other systems in your infrastructure

**Best class experience if you have**
- Overview of Enterprise Analytics
- SDK for Customizing Analytical Applications
- Java and HTML experience

**Topics**
1. Single sign-on: Concepts and workflow
   - Overview of Web SDK and SSO
   - Supported authentication providers
   - Authentication modes and workflows
   - Session creation and management
   - MicroStrategy user credentials
   - MicroStrategy SSO workflow
   - SSO implementation considerations
2. Customizing authentication
   - Creating and mapping a custom ESM
   - Using a custom ESM for customizing authentication workflow
3. Validating users
   - SSO with authentication and validation
   - Customizing trusted authentication
4. Debugging your application or plug-ins
   - Analyzing your web applications
   - Web traffic analyzers
   - Introducing Tamper Data
5. SSO Implementation using a third-party portal
   - Using external portals
   - Customizing SSO with an out-of-the-box MicroStrategy portlet
   - Using configuration templates
   - Configure portlet-to-portlet communication

**MicroStrategy Education Catalog 2022**

**Delivery method:** LIVE INSTRUCTOR LED  eLEARNING  VIDEO RECORDING

UPDATED APRIL 2022
2022.065 Services Architect—Standardizing and Managing Custom Applications (2 days)

Course description
Explore the software development process and related tasks like deployment and source control from a holistic approach of the Services Architect in an Intelligent Enterprise. This course focuses on key competencies to help you succeed as a Services Architect. You learn to support your Intelligent Enterprise to develop applications, components, and plug-ins based on enterprise best practices.

Skills you gain
• Create corporate application design requirements and guidelines
• Maintain an inventory of team skills
• Guide application development with coding and commenting best practices
• Best practices for creating application objects and applications
• Standards for testing apps and components
• Best practices for source control, versioning, and branching
• Guidelines for communicating internally and externally

MicroStrategy products covered
• MicroStrategy SDK
• MicroStrategy REST API

Right for you if
• You want to become the Services Architect in your organization to standardize, optimize, and manage MicroStrategy development at the enterprise level

Best class experience if you have
• Have taken the foundation courses

Topics
1. The Intelligent Enterprise
   • The Services Architect role
2. Building a Productive Development Environment
   • Build a team and procuring tools to support the enterprise
3. Managing the Application Lifecycle
   • Software development documentation
   • Collaborative communication
   • Standardizing the application lifecycle
   • Managing risk
   • Requirements, design, and testing processes
   • Standardizing software deployment
   • Monitoring and maintenance
   • Standardizing software deprecation
4. Design and coding standards
   • Managing builds, libraries, and snippets
5. Maintaining Code with Source Control
   • Standardizing code management
   • Versioning your code
6. Publishing for internal and external audiences
   • Communication outside the team
   • Fostering internal communication
   • Distributing operational data
2022.321 Administration for Enterprise Mobility (1 day)

Course description

Gain practical knowledge necessary to configure, deploy, manage, and optimize the performance of mobile applications. Discuss clustering servers to improve performance, increase scalability, balance the load, and provide failover support for a mobile environment. You also get experience scheduling jobs and administrative tasks.

Skills you gain

- Mobile architecture and deployment options
- How to leverage Enterprise Mobility Management solutions for controlled app deployment and security management
- Use schedules to automate data delivery and administrative tasks
- Analyze user subscriptions with Platform Analytics
- Securely transmit data to and from mobile devices
- Mobile performance improvement strategies

MicroStrategy products covered

- MicroStrategy Mobile
- MicroStrategy Library Mobile
- MicroStrategy Mobile Administrator
- MicroStrategy Library Administrator
- MicroStrategy Workstation

Right for you if

- You are an administrator who wants to configure, optimize, secure, and manage a MicroStrategy Mobile and Library Mobile

Best class experience if you have

- Overview of Enterprise Mobility
- A supported mobile device to use

Topics

1. Mobile and Library Mobile Administration
   - Productivity applications
   - Architecture and components
   - Server installation and configuration
   - Mobile Server-Intelligence Server connectivity
2. Clustering in a Mobile environment
   - Mobile Server clustering and load balancing
   - Mobile Server-Intelligence Server clustering scenarios
   - Working with dissimilar hardware
3. Configure and Deploy Mobile Applications
   - Mobile configurations
   - Configure the app to your data
   - Mobile deployment strategies
4. Enterprise Mobility Management
   - Integrate with AppConfig-compliant EMM providers
   - Mobile Device Management vs Mobile Application Management
5. Mobile Security: Data Access and Transmission
   - User validation: Authentication modes
   - Platform security: Authorization
   - Project-level security
   - Mobile device security
   - Encryption and data protection
   - App-level security
6. Code-free Customizations for Administrators
   - Display a custom domain name
   - Use a reverse proxy server name
   - Configure a custom home screen
7. Automate data delivery and admin tasks
   - Create time-triggered schedules
   - Schedule users for report delivery
   - Analyze and manage subscriptions
   - Mobile alerts
8. Mobile performance and troubleshooting
   - Performance improvement strategies
   - Troubleshooting
   - Diagnostic logs
   - Configuring diagnostics
2022.063 Mobile Architect—Planning, Implementing, and Optimizing (2 days)

Course description

Revisit foundation mobility topics from a holistic approach of the Mobile Architect in an Intelligent Enterprise. Focuses on key competencies to help you succeed as a Mobile Architect and support your Intelligent Enterprise to produce a best-in-class mobile solution based on enterprise best practices.

Skills you gain

- Create corporate mobile app design requirements and guidelines
- Optimize Library Mobile
- Define an effective mobile architecture
- Implement mobile configuration best practices
- Understand Enterprise Mobility Management solutions such as AppConfig compliance and security configuration keys
- Secure a mobile environment
- App monitoring strategies
- Guide mobile performance improvement
- Optimize the app user experience

MicroStrategy products covered

- MicroStrategy Mobile and Library Mobile
- MicroStrategy HyperMobile
- MicroStrategy Mobile Administrator
- MicroStrategy Workstation and Developer

Right for you if

- You want to become the Mobile Architect at your organization to optimize, secure, and manage enterprise-level MicroStrategy Mobile applications.

Best class experience if you have

- Have taken the foundation courses
- Bring a supported mobile device to class
- Install the latest Adobe XD

Topics

1. The Intelligent Enterprise
   - Role of a Mobile Architect
2. Design Thinking Methodology
   - Mobile application requirements
   - Enterprise Mobile solutions
   - Designing and documenting apps
3. Mobile Server security and configuration
   - Mobile Server lifecycle management
   - Mobile authentication and security
   - Mobile configuration
   - Access your personal Library Mobile
4. Create an Enterprise mobile solution
   - Multi-layout document
   - Mobile views
   - Pass selector values and URL API links
   - Build a HyperMobile card
5. Publish and Manage mobile applications
   - Mobile app testing
   - Enterprise Mobility Management
   - Deploying mobile apps
   - Upgrading and updating Mobile SDK
6. Monitoring and troubleshooting
   - Report on user engagement: KPIs
   - Diagnostics and statistics
   - Troubleshooting
7. Optimizing the user experience
   - Mobile caching and app performance
   - Engaging users for app success
   - Alert-based subscriptions
2022.910 Data Modeling (1 day)

Course description
Learn the fundamentals of designing a data model.
Understand business requirements and translate them into an adaptable, extensible, and sustainable data structure.

Skills you gain
- Learn how to analyze user requirements and translate them into a business model
- Create conceptual, logical, and physical models that support data-driven insights to solve business challenges
- Learn the basics of creating entity relationship data models

MicroStrategy products covered
- MicroStrategy Architect

Right for you if
- You are interested in learning and applying the fundamentals of modeling your enterprise data assets
- You are an analyst who wants to expand your knowledge of data model

Best class experience if you have
- Have basic data analysis experience

Topics
1. The MicroStrategy Architecture
   - Analyzing data in an Intelligent Enterprise
   - Following standards set by Architects
   - The MicroStrategy Intelligence platform
   - Intelligence Server
   - Administrative and client tools
   - Metadata
   - Transforming raw data into business insights
   - Source Systems
   - Extract-Transform-Load process
   - Data warehouse

2. Logical Data Model
   - Arranging your data to measure organizational success
   - Facts
   - Attributes
   - Hierarchies
   - Creating a logical data model
   - Gathering Requirements
   - Identifying measurements and context
   - Source systems

3. Physical Warehouse Schema
   - Designing a physical schema
   - Grouping related data in tables
   - Table columns
   - Creating unique keys
   - Lookup tables
   - Attribute relationships
   - Fact tables
   - Structuring your data warehouse
   - Normalization
   - Schema design considerations

Delivery method: 🔴 LIVE INSTRUCTOR LED 🔴 eLEARNING 🔴 VIDEO RECORDING
2022.069 Database Architect—Standardizing and Managing Enterprise Databases (2 days)

Course description

In this course, you will learn about the foundation of database management systems, including big data architecture and technologies to design and maintain database enterprise assets. You will learn about relational, and distributed data warehouse topics from a holistic approach of the Database Architect in an Intelligent Enterprise. The course focuses on the key competencies to help you succeed as a Database Architect, by supporting your Intelligent Enterprise in providing well-tuned data pipelines, and a stable data warehouse platform environment.

Skills you gain

• Implement big data analytics using Hadoop and Hive
• Data Warehouse performance tuning techniques such as partitioning, indexing, and query optimization
• Data integration and migration using Talend Open Studio

MicroStrategy products covered

• MicroStrategy Intelligence Server
• MicroStrategy Web

Right for you if

• You want to become the Database Architect at your organization to optimize database performance and utilization based on query type, usage patterns, and application design requirements

Best class experience if you

• Have taken the foundation courses

Topics

1. Shaping the Intelligent Enterprise
   • The Intelligence Center and the Database Architect role
   • Intelligent Enterprise standards

2. Database Administration
   • Understanding cloud-hosted database environments
   • Using Azure SQL Database features such as on-demand scalability, geo-replication, and automated backups
   • Working with SQL Server Management Studio (SSMS) to perform routine database management activities

3. Big Data Analytics
   • Implementing big data analytics using Hadoop and Hive
   • Apache Hadoop core component installation and configuration, including HDFS, MapReduce, and YARN
   • Performance tuning Hive

4. Data Warehouse Performance Tuning
   • Improve query performance using various data processing and storage techniques related to distributed datasets

5. Database Optimization
   • Database optimization strategies employing aggregation, partitioning, and indexing

6. Data Integration and Migration
   • Migrating data form PostgreSQL to SQL Server database using Talend Open Studio
   • Live data ingestion with Python

7. Enterprise Data Lakes
   • Leverage data lakes
**2022.068 System Administrator—Planning and Optimizing the Analytics Infrastructure (2 days)**

**Course description**

In this course, you will revisit the foundation system administration topics from a holistic approach of the System Administrator in an Intelligent Enterprise. The course focuses on the key competencies to help you succeed as a System Administrator, by supporting your Intelligent Enterprise in providing a well-tuned and stable analytics infrastructure.

**Skills you gain**

- Create corporate guidelines for system administration
- Guide the deployment, configuration, monitoring, tuning, and troubleshooting of a MicroStrategy analytics infrastructure using best practices
- Create backup, recovery, and failover plans for your analytics infrastructure

**MicroStrategy products covered**

- MicroStrategy Intelligence Server
- MicroStrategy Workstation
- MicroStrategy Cloud Console

**Right for you if**

- You want to become the System Administrator at your organization to optimize, secure, and manage the MicroStrategy enterprise infrastructure

**Best class experience if you**

- Have taken the foundation courses

**Topics**

1. The Intelligent Enterprise
   - The Intelligence Center and the System Administrator
2. Sharing Knowledge with the Enterprise
   - Coordinate with fellow architects
   - Create a documentation repository
   - Establish a training schedule
3. Laying the foundation and creating your infrastructure
   - Identifying operating systems
   - Selecting hardware resources
   - Establishing a network architecture
   - Maintaining user information
   - Establishing a repository for system files
   - Connecting to data sources
4. Securing the Infrastructure
   - Creating infrastructure security policies
   - Establishing secure data transfer practices
   - Maintaining system availability
5. Publishing environment details
   - Creating topology diagrams
   - Documenting operating procedures
   - Distributing Service Level Agreements
   - Capturing server activity
6. Monitoring and Optimizing the Infrastructure
   - Discovering and fixing hardware deficiencies
   - Fine-tuning network performance
   - Providing troubleshooting support
7. Maintaining the Infrastructure
   - Maintaining hardware to ensure efficiency
2022.067 Intelligence Center Director: Leading the Intelligent Enterprise (2 days)

Course description
This course is ideal for those running a BI group—directors, VPs, and executives growing a successful Intelligence Center with the MicroStrategy platform. Learn to lead the Intelligence Center by creating intelligence environments and running programs to support departmental and enterprise analytics applications. Transform your BI and become a change advocate for intelligent, competitive analytics in your organization.

This class is available through the Architect pass.

Skills you gain
- Establish corporate requirements and guidelines for business intelligence
- Understand how to develop an Intelligence Center
- Create effective programs for the Intelligent Enterprise architecture and end users
- Create a foundation for trusted analytics
- Understand architecture and performance
- Optimize user experience to promote BI adoption

MicroStrategy products covered
- MicroStrategy Web, HyperIntelligence
- MicroStrategy Developer, Workstation

Right for you if
- You want to establish standards, optimize performance, increase BI adoption, and help establish an Intelligent Enterprise across your organization.

Best class experience if you have
- Have taken the foundation courses

Topics
1. Build a more Intelligent Enterprise
   - The path to the Intelligent Enterprise
   - Your role as the Intelligence Center Director
2. Establish processes and standards
   - Evaluate your organization
   - Intelligent programs: Standards for success
   - Foundational programs: Establish the Intelligent Enterprise architecture
   - Developmental programs: Create powerful applications for end users
3. Develop a successful team with the Intelligence Center
   - Set up the Intelligence Center
   - Establish service-level agreements
   - Track KPIs to drive performance
   - Team empowerment and BI adoption
   - Enhance organizational communication with HyperIntelligence
4. Implement the Intelligence Center and programs
   - Initiate the Intelligent Enterprise strategy
   - Trusted and governed analytics
   - Leverage federated analytics
   - Promote data usage across the enterprise
   - Support departmental analysts
   - Strengthen executive sponsor support
5. Maintain and monitor the Intelligent Enterprise
   - Establish a monitoring and maintenance strategy
   - Review architecture and performance
   - Manage and verify your licenses
6. Optimize the user experience
   - Drive user adoption through availability, reliability, and performance
   - Automated distribution and alerting
   - Implement a successful upgrade methodology

Delivery method: LIVE INSTRUCTOR LED eLEARNING VIDEO RECORDING
2022.121 Overview of Enterprise Mobility (2 days)

Course description
Build basic enterprise mobile applications using MicroStrategy tools. Covers the fundamentals of enterprise mobility to build the knowledge base necessary to tackle the more advanced courses offered for analysts, developers, and administrators. Most of this course is hands on, performing basic mobile application design, development, and deployment.

Skills you gain
- Design principles for mobile apps
- Create documents with interactive graphs
- Create mobile configurations
- Add mobile-specific features to a document
- Create and deploy a mobile app to a mobile device
- Mobile app development lifecycle
- Storyboarding
- Mobile architecture basics
- Optimize dossiers for mobile platforms
- Leverage HyperMobile

MicroStrategy products covered
- MicroStrategy Mobile platform
- MicroStrategy Web

Right for you if
- You are an analyst who needs to create mobile apps to provide documents on mobile devices.

Best class experience if you have
- Taken 2021.111 Overview of Enterprise Analytics and 2021.141 Introduction to Documents
- A supported mobile device

Topics
1. Library and HyperMobile Apps
   - Building and enhancing dossiers for the Mobile app
   - MicroStrategy Library app: Your virtual dossier bookshelf
   - Bringing HyperIntelligence to your mobile device with HyperMobile
2. Plan and design a MicroStrategy Mobile app
   - User-centered design
   - Select the platforms to support your app
   - Graphic design considerations
   - Design best practices for tablets
   - Design best practices for smartphones
   - Create, develop, and test your app
3. Create a Mobile app
   - The business scenario
   - App components
   - MicroStrategy links
   - Building the Sales Performance app
   - Creating the documents: Adding objects
   - Adding interactive elements to the app
   - Layering and grouping data in the app
4. Extend Mobile capabilities
   - Transaction Services
   - Mobile SDK
5. Administration and app deployment
   - The Mobile client
   - Mobile architecture
   - Mobile configuration
   - Mobile app deployment
   - Additional Mobile features
6. Workshop: Create a human resources app
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